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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/660,127	09/10/2003	Satoru Yukie	982020-2002.1	6915
20999	7590	04/12/2006	EXAMINER	
FROMMER LAWRENCE & HAUG 745 FIFTH AVENUE- 10TH FL. NEW YORK, NY 10151			HANNIF ALI, LARRY	
			ART UNIT	PAPER NUMBER
			2617	

DATE MAILED: 04/12/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

**Application No.**

10/660,127

**Applicant(s)**

YUKIE ET AL.

**Examiner**

Larry Hannif-Ali

**Art Unit**

2688

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 10 September 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-47 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-47 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 10 September 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 2-06-2004.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## DETAILED ACTION

### *Claim Rejections - 35 USC § 102*

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. **Claims 1-47** are rejected under 35 U.S.C. 102(b) as being unpatentable over Cheah (U.S. Patent No. 6,788,953 B1).

3. Regarding **Claim 1**. Cheah teaches a phone system, comprising: a terminal unit comprising: a first antenna, a first modem connected to said first antenna [Col 6, lines 1-4 & Fig. 2, Item 15 & Col 7, lines 50-56 & Fig. 3, Item 70 & Fig. 4, Layer 1 (inherently, a first modem will be incorporated to modulate signals for transmission and demodulate received signals)], a second antenna, a second modem connected to said second antenna [Col 6, lines 27-29 & Fig. 2, Item 22 & Col 7, lines 50-56 & Fig. 3, Item 70 & Fig. 4, Layer 1 (inherently, a second modem will be incorporated to modulate signals for transmission and demodulate received signals)], a modem interface connected to said first modem and to said second modem [Col 5, lines 36-50 & Col 6, lines 20-26 & Fig. 2, Item 18 (interface module)]; wherein said first modem provides a first air interface using said first antenna for short range communication, said second modem provides a second air interface using said second antenna, and said second air interface is different than said first air interface [Col 5, lines 36-47 (cellular and cordless interfaces are able to communicate bidirectional)].

Regarding **Claim 2**. Cheah teaches wherein: said modem interface provides signals from said first modem to said second modem and provides signals from said second modem to said first modem [Col 5, lines 36-50 & Col 6, lines 20-26].

Regarding **Claim 3**. Cheah teaches wherein: said modem interface converts signals received from said first modem to first converted signals compatible with said second modem and provides said first converted signals to said second modem [Col 5, lines 36-39 (cellular and cordless interfaces are able to communicate bidirectional)], and said modem interface converts signals received from said second modem to second converted signals compatible with said first modem and provides said second converted signals to said first modem [Col 5, lines 39-44 (cellular and cordless interfaces are able to communicate bidirectional)].

Regarding **Claim 4**. Cheah teaches wherein: said first air interface provides a cordless phone air interface [Col 6, lines 1-8].

Regarding **Claim 5**. Cheah teaches wherein: said second air interface provides a wireless local loop air interface [Col 4, lines 59-62 & Col 5, lines 8-17].

Regarding **Claim 6**. Cheah teaches wherein: said second air interface provides a cellular phone air interface [Col 6, lines 27-35].

Regarding **Claim 7**. Cheah teaches wherein: said second air interface provides a PCS air interface [Col 6, lines 27-35].

Regarding **Claim 8**. Cheah teaches further comprising: a handset comprising [Col 5, lines 18-25 & Fig. 1, Item 12]: a third antenna [Col 5, lines 18-25 & Fig 1, Item 12 (incorporates an antenna)], a third modem connected to said third antenna [Col 5, lines 18-25 & Col 7, lines 50-56 & Col 7, 61-65 & Fig. 3 (inherently, handset will incorporate a modem to provide wireless voice communication to and from base unit)], a handset user interface [Col 8, lines 46-49 & Col 29, lines 19-25 & Fig. 27 (inherently, a handset user interface will be incorporated to process received commands)]; wherein said third modem provides a third air interface using said third antenna, and said third air interface

is the same as the first air interface such that the third modem can communicate with the first modem [Col 5, lines 18-25].

Regarding **Claim 9**. Cheah teaches wherein: said handset further comprises: a handset command interface for processing commands received through said handset user interface [Col 8, lines 46-49 & Col 29, lines 30-35 (inherently, a handset command interface will be incorporated to process received commands)].

Regarding **Claim 10**. Cheah teaches wherein: said handset command interface processes commands received from said terminal unit [Col 8, lines 42-49].

Regarding **Claim 11**. Cheah teaches wherein: said terminal unit further comprises: a terminal command interface for processing commands received from said handset [Col 8, lines 42-49 & Col 29, lines 30-35 & Fig. 6, Item 102]

Regarding **Claim 12**. Cheah teaches wherein: said terminal unit further comprises: a terminal user interface [Col 8, lines 42-49 & Fig. 6, Item 100]

Regarding **Claim 13**. Cheah teaches wherein: said terminal unit further comprises: a terminal command interface for processing commands received through said terminal user interface [Col 8, lines 42-49 & Fig. 6, Item 102]

Regarding **Claim 14**. Cheah teaches wherein: said terminal command interface processes commands received from said handset [Col 8, lines 46-49 & Col 29, lines 30-35 & Fig. 6, Item 102 (RF manager will process commands received from handset)]

Regarding **Claim 15**. Cheah teaches a method of wireless communication, comprising: receiving a signal in a first air interface format from a wireless base station through a first antenna of a terminal unit [Col 5, lines 39-44 & Fig. 2, Item 22 & Col 6, lines 20-26]; converting said signal to a second air interface format [Col 5, lines 39-44 & Fig. 3

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(interface module: Layer 1 does the modulation and demodulation of signals)); and sending said signal in said second air interface format to a wireless handset through a second antenna of said terminal unit [Col 5, lines 39-44 & Col 6, lines 20-26 & Fig. 2, Item 15] wherein said first air interface format is a wireless local loop air interface format [Col 4, lines 59-62 & Col 5, lines 8-17], said second air interface format is a short range wireless air interface format [Col 6, lines 2-5], and said signal includes voice data [Col 6, lines 2-5 ( voice and audio signals)].

Regarding **Claim 16**. Cheah teaches wherein: said first air interface provides a cellular phone air interface [Col 6, lines 27-35].

Regarding **Claim 17**. Cheah teaches wherein: said first air interface provides a PCS air interface [Col 6, lines 27-35].

Regarding **Claim 18**. Cheah teaches wherein: said second air interface format is a cordless phone air interface format [Col 6, lines 1-8].

Regarding **Claim 19**. Cheah teaches further comprising: sending a command signal in said second air interface format from said terminal unit to said handset through said second antenna [Col 8, lines 46-49 & Col 29, lines 30-35 & Fig. 2, Item 15 (RF manager dispatches commands to handset)].

Regarding **Claim 20**. Cheah teaches further comprising: receiving a command signal in said second air interface format at said terminal unit from said handset through said second antenna [Col 8, lines 46-49 & Col 29, lines 30-35 & Fig. 2, Item 15 (RF manager receives events from handset)].

Regarding **Claim 21**. Cheah teaches a method of wireless communication, comprising: receiving a signal in a first air interface format from a wireless handset through a first antenna of a terminal unit [Col 5, lines 36-39 & Col 6, lines 1-8 & Col 6, lines 20-26 &

Fig. 2, Item 15]; converting said signal to a second air interface format [Col 5, lines 39-44 & Fig. 3 (interface module: Layer 1 does the modulation and demodulation of signals)]; and sending said signal in said second air interface format to a wireless base station through a second antenna of said terminal unit [Col 5, lines 44-50 & Col 6, lines 20-26 & Fig. 2, Item 22]; wherein said first air interface format is a short range wireless air interface format [Col 6, lines 4-8], said second air interface format is a wireless local loop air interface format [Col 4, lines 59-62 & Col 5, lines 8-17], and said signal includes voice data [Col 6, lines 2-5 (voice and audio signals)].

Regarding **Claim 22**. Cheah teaches wherein: said first air interface format is a cordless phone air interface format [Col 6, lines 1-8].

Regarding **Claim 23**. Cheah teaches wherein: said second air interface provides a cellular phone air interface [Col 6, lines 27-35].

Regarding **Claim 24**. Cheah teaches wherein: said second air interface provides a PCS air interface [Col 6, lines 27-35].

Regarding **Claim 25**. Cheah teaches further comprising: sending a command signal in said first air interface format from said terminal unit to said handset through said second antenna [Col 8, lines 46-49 & Fig. 2, Item 15 (RF manager dispatches commands to handset)].

Regarding **Claim 26**. Cheah teaches further comprising: receiving a command signal in said first air interface format at said terminal unit from said handset through said second antenna [Col 8, lines 46-49 & Fig. 2, Item 15 (RF manager receives events from handset)].

Regarding **Claim 27**. A method of wireless communication, comprising: receiving a signal including a command in a first air interface format from a wireless handset

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through a first antenna of a terminal unit [Col 5, lines 36-39 & Col 6, lines 1-8 & Col 6, lines 20-26 & Fig. 2, Item 15 & Col 8, lines 46-49]; converting said signal to command data indicating said command [Col 5, lines 39-44 & Fig. 3 (interface module: Layer 1 does the modulation and demodulation of signals)]; and executing said command at said terminal unit [Col 8, lines 34-46 (manager/controller at relay unit will execute the commands sent from handset)]; wherein said first air interface format is a short range wireless air interface format [Col 6, lines 1-8], said second air interface format is a wireless local loop air interface format [Col 4, lines 59-62 & Col 5, lines 8-17], and said terminal unit includes a second antenna for supporting a second air interface [Fig. 2, Item 22].

Regarding **Claim 28**. Cheah teaches wherein: said first air interface format is a cordless phone air interface format [Col 6, lines 1-8].

Regarding **Claim 29**. Cheah teaches wherein: said second air interface provides a cellular phone air interface [Col 6, lines 27-35].

Regarding **Claim 30**. Cheah teaches wherein: said second air interface provides a PCS air interface [Col 6, lines 27-35].

Regarding **Claim 31**. Cheah teaches wherein: executing said command includes using said second air interface [Col 5, lines 44-50 (signals are transferred to cellular transceiver for transmission to base station)].

Regarding **Claim 32**. Cheah teaches a system for wireless communication, comprising: means for receiving a signal in a first air interface format from a wireless base station through a first antenna of a terminal unit [Col 5, lines 39-44 & Fig. 2, Item 22 & Col 6, lines 20-26]; means for converting said signal to a second air interface format [Col 5, lines 39-44 & Fig. 3 (interface module: Layer 1 does the modulation and demodulation of signals)]; and means for sending said signal in said second air interface format to a



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wireless handset through a second antenna of said terminal unit [Col 5, lines 39-44 & Col 6, lines 20-26 & Fig. 2, Item 15]; wherein said first air interface format is a wireless local loop air interface format [Col 4, lines 59-62 & Col 5, lines 8-17], said second air interface format is a short range wireless air interface format [Col 6, lines 2-5], and said signal includes voice data [Col 6, lines 2-5 (voice and audio signals)].

Regarding **Claim 33**. Cheah teaches wherein: said first air interface provides a cellular phone air interface [Col 6, lines 27-35].

Regarding **Claim 34**. Cheah teaches wherein: said first air interface provides a PCS air interface [Col 6, lines 27-35].

Regarding **Claim 35**. Cheah teaches wherein: said second air interface format is a cordless phone air interface format [Col 6, lines 1-8].

Regarding **Claim 36**. Cheah teaches further comprising: means for sending a command signal in said second air interface format from said terminal unit to said handset through said second antenna [Col 8, lines 46-49 & Fig. 2, Item 15 (RF manager dispatches commands to handset)].

Regarding **Claim 37**. Cheah teaches further comprising: means for receiving a command signal in said second air interface format at said terminal unit from said handset through said second antenna [Col 8, lines 46-49 & Fig. 2, Item 15 (RF manager receives events from handset)].

Regarding **Claim 38**. Cheah teaches a system for wireless communication, comprising: means for receiving a signal in a first air interface format from a wireless handset through a first antenna of a terminal unit [Col 5, lines 36-39 & Col 6, lines 4-8 & Col 6, lines 20-26 & Fig. 2, Item 15]; means for converting said signal to a second air interface format [Col 5, lines 39-44 & Fig. 3 (interface module: Layer 1 does the modulation and

demodulation of signals)]; and means for sending said signal in said second air interface format to a wireless base station through a second antenna of said terminal unit [Col 5, lines 44-50 & Fig. 2, Item 22]; wherein said first air interface format is a short range wireless air interface format [Col 6, lines 4-8], said second air interface format is a wireless local loop air interface format [Col 4, lines 59-62 & Col 5, lines 8-17], and said signal includes voice data [Col 6, lines 2-5 (voice and audio signals)].

Regarding **Claim 39**. Cheah teaches wherein: said first air interface format is a cordless phone air interface format [Col 6, lines 1-8].

Regarding **Claim 40**. Cheah teaches wherein: said second air interface provides a cellular phone air interface [Col 6, lines 27-35].

Regarding **Claim 41**. Cheah teaches wherein: said second air interface provides a PCS air interface [Col 6, lines 27-35].

Regarding **Claim 42**. Cheah teaches further comprising: means for sending a command signal in said first air interface format from said terminal unit to said handset through said second antenna [Col 8, lines 46-49 & Fig. 2, Item 15 (RF manager dispatches commands to handset)].

Regarding **Claim 43**. Cheah teaches further comprising: means for receiving a command signal in said first air interface format at said terminal unit from said handset through said second antenna [Col 8, lines 46-49 & Fig. 2, Item 15 (RF manager receives events from handset)].

Regarding **Claim 44**. Cheah teaches a system for wireless communication, comprising: means for receiving a signal including a command in a first air interface format from a wireless handset through a first antenna of a terminal unit [Col 5, lines 36-39 & Col 6, lines 4-8 & Col 6, lines 20-26 & Fig. 2, Item 15 & Col 8, lines 46-49]; means for

converting said signal to command data indicating said command [Col 5, lines 39-44 & Fig. 3 (interface module: Layer 1 does the modulation and demodulation of signals)]; and means for executing said command at said terminal unit using a second air interface [Col 8, lines 34-46 (manager/controller at relay unit will execute the commands sent from handset)]; wherein said first air interface format is a short range wireless air interface format [Col 6, lines 4-8], and said second air interface format is a wireless local loop air interface format [Col 4, lines 59-62 & Col 5, lines 8-17].

Regarding **Claim 45**. Cheah teaches wherein: said first air interface format is a cordless phone air interface format [Col 6, lines 1-8].

Regarding **Claim 46**. Cheah teaches wherein: said second air interface provides a cellular phone air interface [Col 6, lines 27-35].


Regarding **Claim 47**. Cheah teaches wherein: said second air interface provides a PCS air interface [Col 6, lines 27-35].

### ***Conclusion***


4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Larry Hannif-Ali whose telephone number is 571-272-5598. The examiner can normally be reached on Mon-Fri 9:00AM - 6:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lester Kincaid can be reached on 571-272-7922. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Larry Hannif-Ali  
March 16, 2006



**LESTER G. KINCAID**  
**SUPERVISORY PRIMARY EXAMINER**